c) <u>REMARKS</u>

The claims are 11, 12 and 14-22 with claims 11 and 12 being independent. Reconsideration of the claims is expressly requested in view of the comments which follow.

Claim 13 was deemed objectionable. Without necessarily agreeing or disagreeing to the grounds of objection, claim 13 has been cancelled to expedite prosecution.

Claims 11-22 were rejected as obvious over Pai et al. '102 in view of Borsenberger (pages 330-338) and further in view of JP '265, Kawamorita '214 or Kovacs '313. The Examiner has, inter alia, taken Official Notice that a process cartridge with the claimed semiconductor laser is well known in the art and that semiconductor lasers with the claimed oscillation wavelength are well known in the electrophotographic art for exposing electrophotographic photosensitive members. The Examiner has taken the position that Pai '102 discloses a wavelength of 400 to 800 nm. The Examiner believes exposure at or near 400 nm is explicitly taught by this recitation. Borsenberger is cited to show charge generation compounds sensitive to lower exposure wavelengths. JP '265 is said to disclose a laser light source from 400-600 cm. The same disclosure is said to be found in Kawamorita and Kovacs. The grounds of rejection are respectfully traversed.

Prior to addressing the grounds of rejection, Applicants wish to briefly review certain key features and advantages of the present claimed invention. As set forth on specification page 11, line 16 to page 12, line 15, when using a photosensitive member with a charge generating material having an absorption band at from 400 to 500 nm and a

light source emitting light at a wavelength of about 400 nm, Applicants have noted a large variation in potential after repeated use and significant image defects, including ghosting. These problems are illustrated in, for example, Tables 2 and 9 in which large variations in potential after repeated use and ghosting were evident for the comparative examples. Similar results are observed in Tables 10 and 17.

As noted on page 12, a factor causing such problems is the partial accumulation of excitons and charge carriers generated by radiation of short-wavelength light having a high energy (emphasis supplied). Such accumulation changes the charging characteristics and sensitivity of the photosensitive member. Applicants have discovered that the accumulation of excitons and carriers can be suppressed by an electron transfer reaction with a specific charge transfer material which acts to (i) suppress the tendency to change in potential and memory phenomenon during repeated use and (ii) forms stable, high quality images.

Specifically, the present inventors have solved the problem caused by employing short wavelength semiconductor laser light (which is coherent light of high energy) by utilizing a charge transfer layer having a specific transmittance and containing a specific charge transfer material. At higher transmittances of the charge transfer layer, the short wavelength semiconductor laser causes more problems for the charge-generating material. The instant charge transfer material alleviates such problems by suppressing deterioration of the charge-generating material by preventing accumulation of excitons and charge carriers.

As set forth on Specification pages 52, 67, 76 and 77, when a semiconductor layer laser having a longer oscillation wavelength of 780 nm was used as a light source, then poor results were obtained. Accordingly, Applicants have discovered that when using a short wavelength semiconductor as the exposure light source (compared with a longer wavelength semiconductor source), then the claimed charge transport layer having a specific conductance will remedy the problems of variations in potential and image defects.

The primary reference, Pai, merely discloses a charge transport layer transparent to irradiation in a region in which the photoconductor is to be used (see column 10). Pai fails to teach or suggest using a short wavelength semiconductor laser as the light source. As set forth in column 19 in Pai, the photoreceptor was exposed to monochromatic radiation of known intensity. As will be shown hereafter, this disclosure is not a teaching of employing short wavelength semiconductor laser as the exposure light source.

The disclosure of "monochromatic radiation" in Pai is not a disclosure of short wavelength semiconductor laser light. To obtain monochromatic light it was conventional to initially utilize non-coherent light, such as halogen light, and thereafter, passing such light through a polarizing filter, or the like, to make it monochromatic. Monochromatic light derived by passing non-coherent light through a filter is not "coherent" as in a laser and is essentially different in kind from the high energy semiconductor laser light.

Even if the wavelength range of monochromatic radiation and semiconductor laser were similar, the short wavelength semiconductor laser would exhibit

a much larger energy then the polarized halogen light. It is this greater energy that enhances the deterioration of the charge-generating material. Accordingly, in the present claimed invention, not only the wavelength range, but also the light source, itself, is important.

The disclosures in Pai relating to employing wavelengths from 400 to 800 nm does not suggest use of a short wavelength semiconductor laser. Pai merely discloses monochromatic light, not coherent laser light. Clearly, the problems engendered by use of laser irradiation, which are solved by the present invention, are not disclosed in Pai. The present invention does not merely increase transmittance of the charge transport layer as in Pai, but acts to suppress the deterioration of the charge-generation layer caused by the high energy of the laser radiation.

The defects of Pai are not remedied by Borsenberger. Borsenberger merely discloses that perylene compounds absorb at wavelengths from 450 to 600 nm. Borsenberger does not teach use of a semiconductor laser light. Borsenberger also fails to teach or suggest the problems caused by deterioration of a charge-generation layer by high energy semiconductor laser light or the need to employ specific charge transfer material in order to suppress such deterioration.

None of the newly cited references, JP '265, Kawamorita or Kovacs disclose the technical problems solved by the present invention. Further, Kawamorita does not suggest using a short wavelength semiconductor laser. The following passage in Kawamorita "which is the wavelength range of the semiconductor laser beam" is related only to "an infrared range of about 800 nm". See column 1, line 37-39. JP '265 merely

teaches a broad wavelength range from 400-600 nm and dyes with absorptions at 400-500 nm and 500-600 nm. No charge transport material is specified. Kovacs employs a quad semiconductor laser at 450, 540, 670 and 830 nm.

Wherefore, Applicants submit that none of the references, whether alone or combined, discloses or suggests the present claimed invention nor renders it unpatentable. Accordingly, it is respectfully requested that the claims allowed and the case passed to issue.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

Peter Saxon

Attorney for Applicants

Registration No. 24947

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200

NY_MAIN 386383v1